

Deorbit Prep Checklist

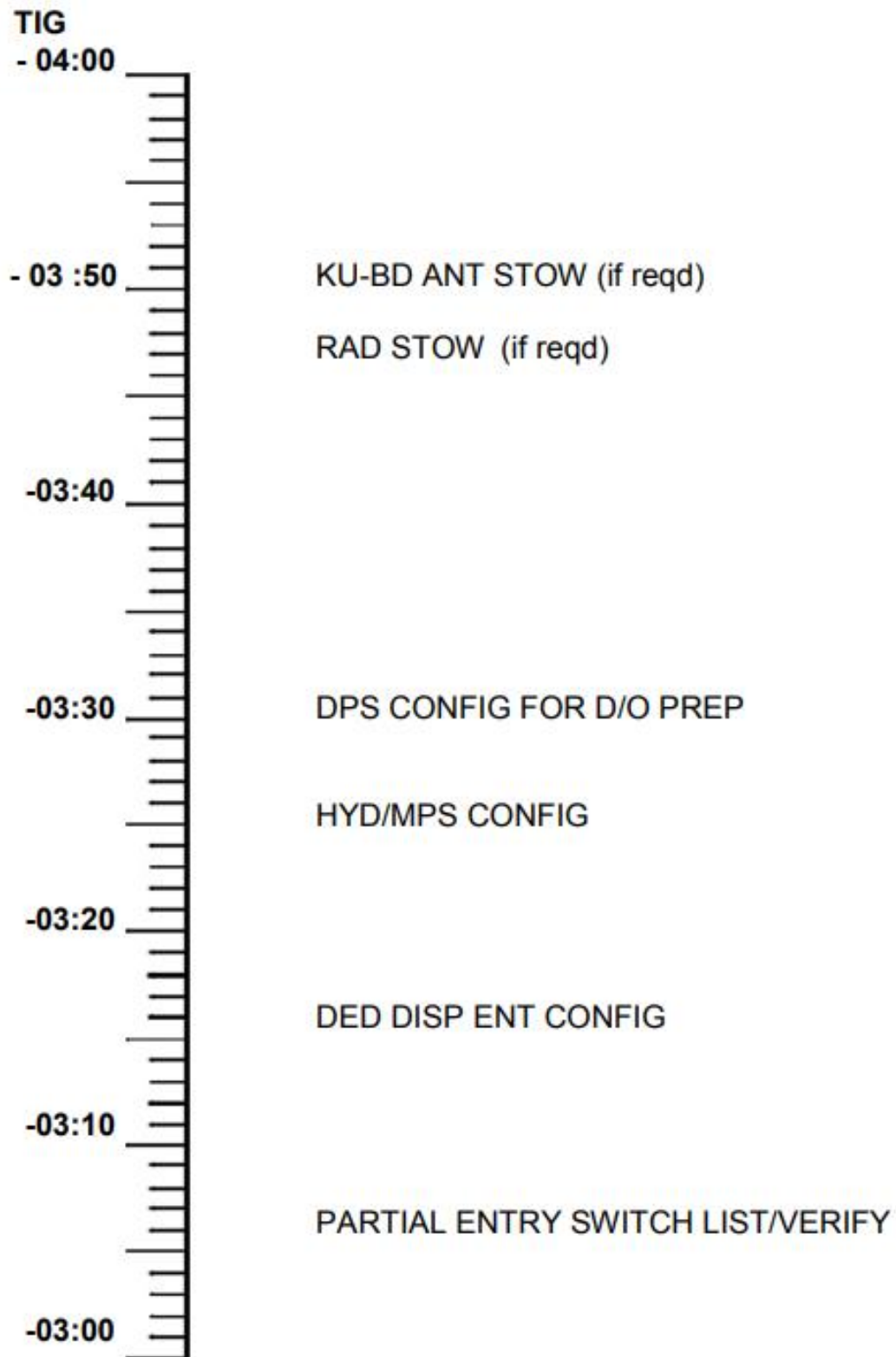
**Mission Operations Directorate
Flight Design and Dynamics Division
Final
July 23, 2024**

National Aeronautics and
Space Administration

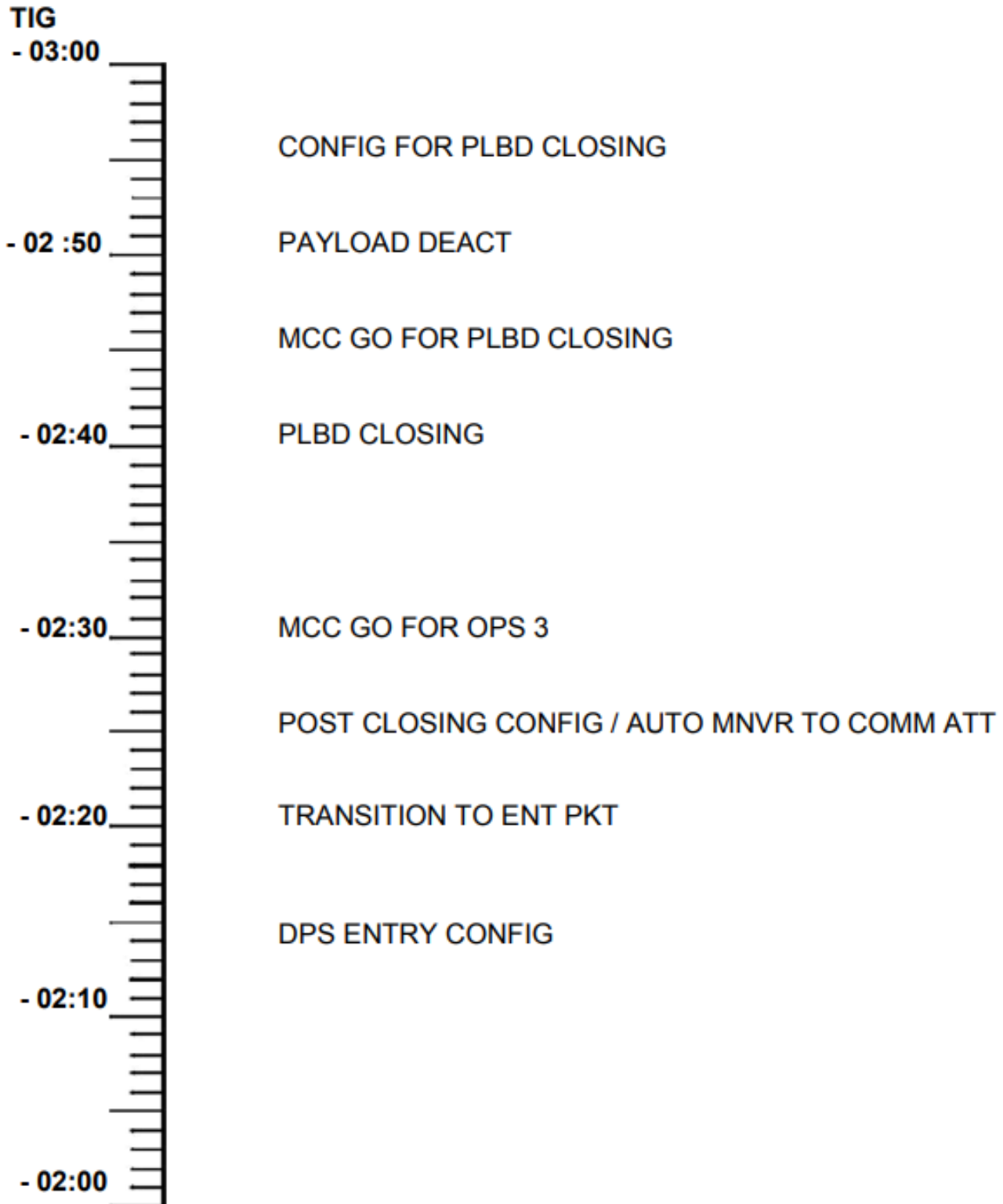
Lyndon B. Johnson Space Center
Houston, Texas



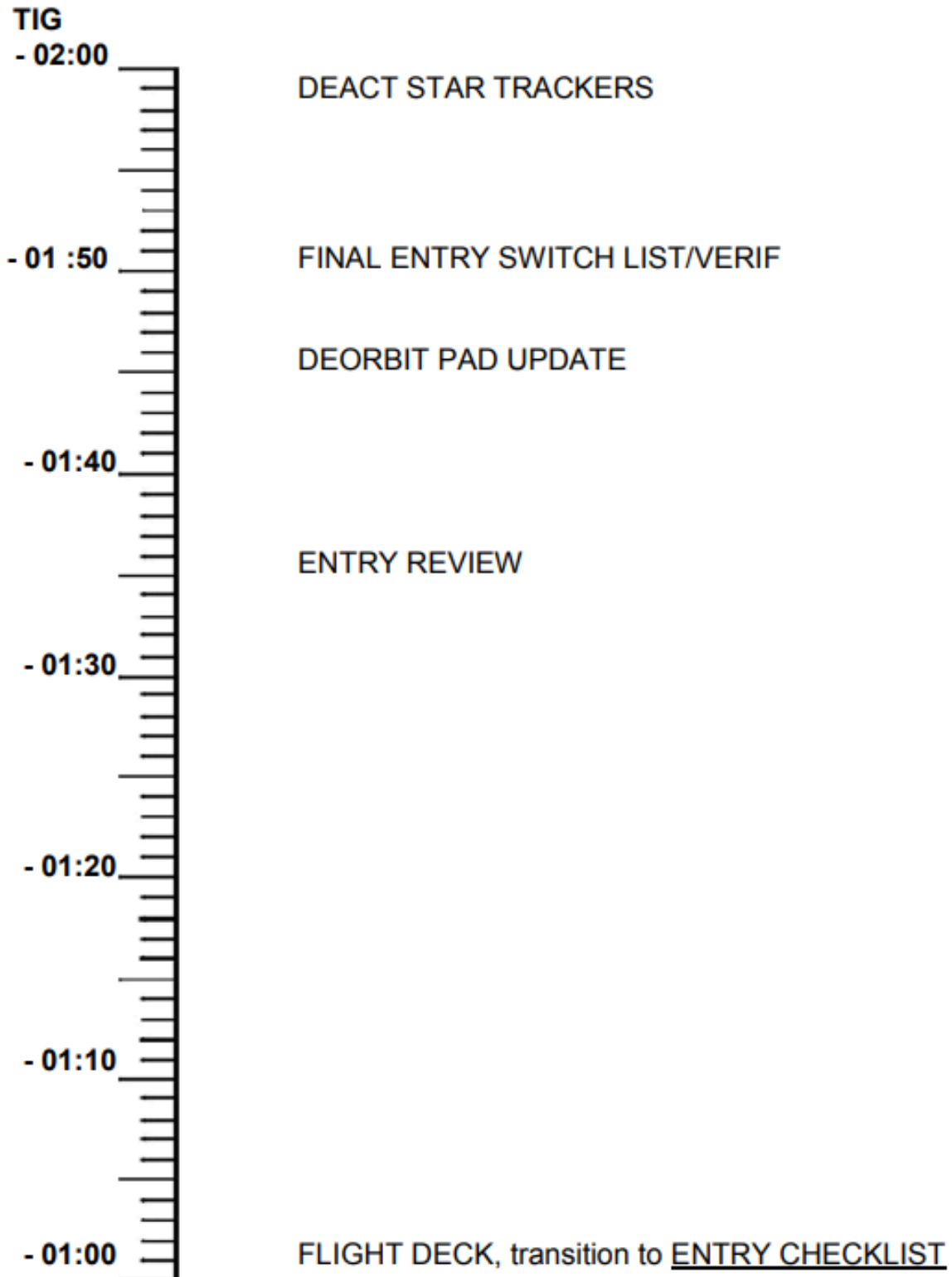
NOMINAL DEORBIT PREP SUMMARY TIMELINE



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Verify that following activities have been accomplished:

FCS CHECKOUT (ORB OPS, GNC)

RCS HOT FIRE TEST (ORB OPS, RCS)

MNVR (TRK) BIASED – XSI (FLIGHT PLAN, DETAILED TIMELINE)

Back out of PRIORITY PWRDN as reqd (ORB PKT, PRIOR PWRDN)

-03:50

KU-BD ANT STOW

R13L	√PL BAY MECH PWR SYS 1,2 (two)	– OFF
A1U	√CNTL	– CMD
	√RADAR OUTPUT	– LOW
	KU BD PWR	– ON
	KUBD MODE	– RDR
PASSIVE		
	CNTL	– PNL
	KU BD sel	– MAN
SLEW		
A2	√DIGI DIS SEL	– EL/AZ
A1U	SLEW RATE	– as reqd
A2	R/EL ind:	-27.0 (± 1°)
A1U	SLEW AZM	– as reqd

A2 RR/AZM ind: -123.0 ($\pm 1^\circ$)

LOCK GIMBALS

DAP: VERN(FREE)

R13L KU ANT – STO

A2 $\sqrt{R/EL}$ ind: -29.0 ($\pm 1^\circ$)

$\sqrt{RR/AZM}$ ind: -125.0 ($\pm 1^\circ$)

00:00 Start Event Timer

A2 Monitor KU ANT gimbal angles for 50 sec
(gimbal lock test), then:

DAP: as reqd

STOW DEPLOYED ASSEMBLY

R13L PL BAY MECH PWR SYS 1,2 (two) – ON

\sqrt{KU} ANT tb – STO (~23 to 46 sec)

A1U KU BD PWR – OFF (Expect 'BCE BYP KU' msg)

R13L PL BAY MECH PWR SYS1,2 – OFF

KU ANT – GND

1.STOW PANELS

R13L	√RAD LAT CNTL SYS A,B (two)	– OFF
	√CNTL SYS A,B (two)	– OFF
	√RAD,LAT PORT,STBD tb (four) match current RAD config	
	PL BAY MECH PWR SYS 1,2 (two)	– ON
	RAD CNTL SYS A,B (two)	– STO
	√Stowing RAD tb-bp, ~50 sec STO	
	RAD CNTL SYS A,B (two)	– OFF

If stowing RAD tb(s) not bp after 10 sec and no motion,

or

If RAD panel(s) in transit and no motion,

or

If stowing RAD tb(s) not STO within 100 sec and no motion:

RAD CNTL SYS A,B (two)	– OFF
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2. LATCH PANELS

R13L RAD LAT CNTL SYS A,B (two) – LAT

√Stowing RAD LAT tb-bp, ~30 sec, LAT

RAD LAT CNTL SYS A,B (two) – OFF

If stowing RAD LAT tb not LAT in 60 sec:

RAD LAT CNTL SYS A,B (two) – OFF

PL BAY MECH PWR SYS 1,2 (two) – OFF

-03:30 DPS CONFIG FOR DEORBIT PREP

ACTIVATE GPC 2 (if in HALT)

O6 √GPC MODE 2 – HALT (tb-
bp)

√OUTPUT2 – NORM

√PWR 2 – ON

MODE 2 – STBY (tb-
RUN), RUN

Transition GPCS 1 & 2 to OPS 2 (if GPC 2 just activated)

Ensure BFS GPC can command an IDP

O6	√GPC PWR 5	– ON
	MODE 5	– STBY (tb-RUN)
C3	BFC CRT DISP	– ON
	SEL	– 2+3

CRT2	BFS GNC SYS SUMM 2	
	BFC CRT DISP	– OFF
	SEL	– 3+1

-03:25 CCTV PWRDN

A7U	TV PWR CONTR UNIT	– OFF
	TV CAMR PWR (five)	– OFF
A3	PWR (two)	– OFF
R14	CAMR/PTU (five)	– OUT
	CAMR/HTR (five)	– OUT
	ILLUM/PTU HTR (five)	– OUT
	CONTR UNIT (three)	– OUT
	MON 1	– OUT
	MON 2	– OUT

HYD/MPS CONFIG

W/B STEAM VENT HTR ACT

R2	√BLR CNTLR/HTR (three)	– B
	√BLR CNTL PWR (three)	– ON

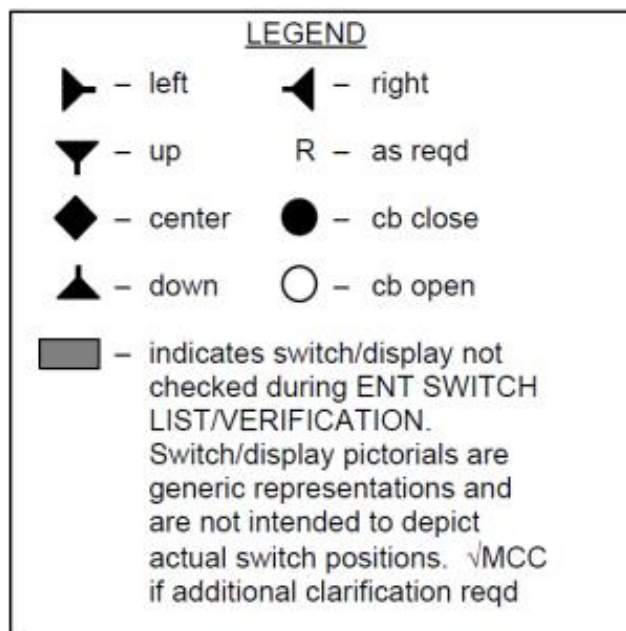
SME HYD REPRESS PREP

C3 ✓FCS CH (four) – AUTO

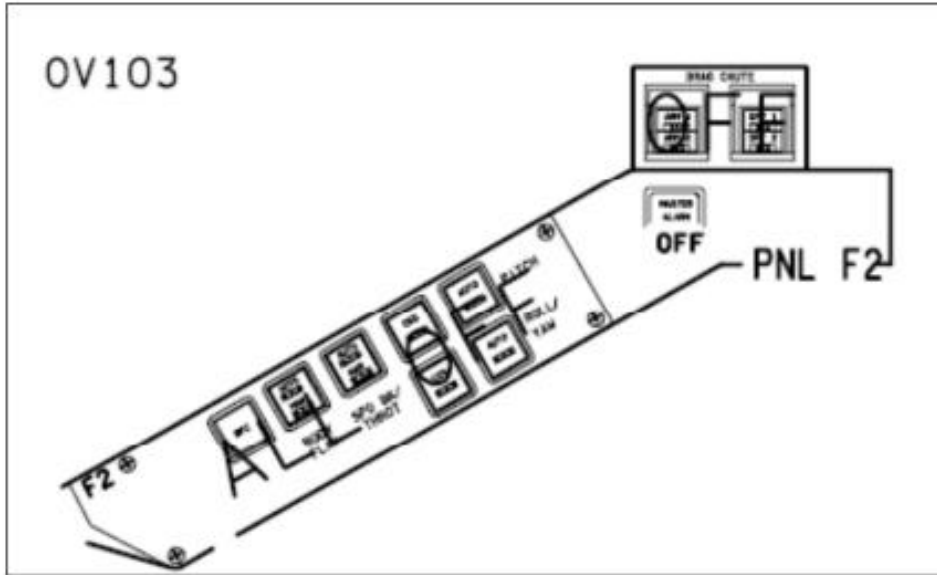
-03:15 DED DISP ENT CONFIG

O8 RADAR ALTM (two) – ON

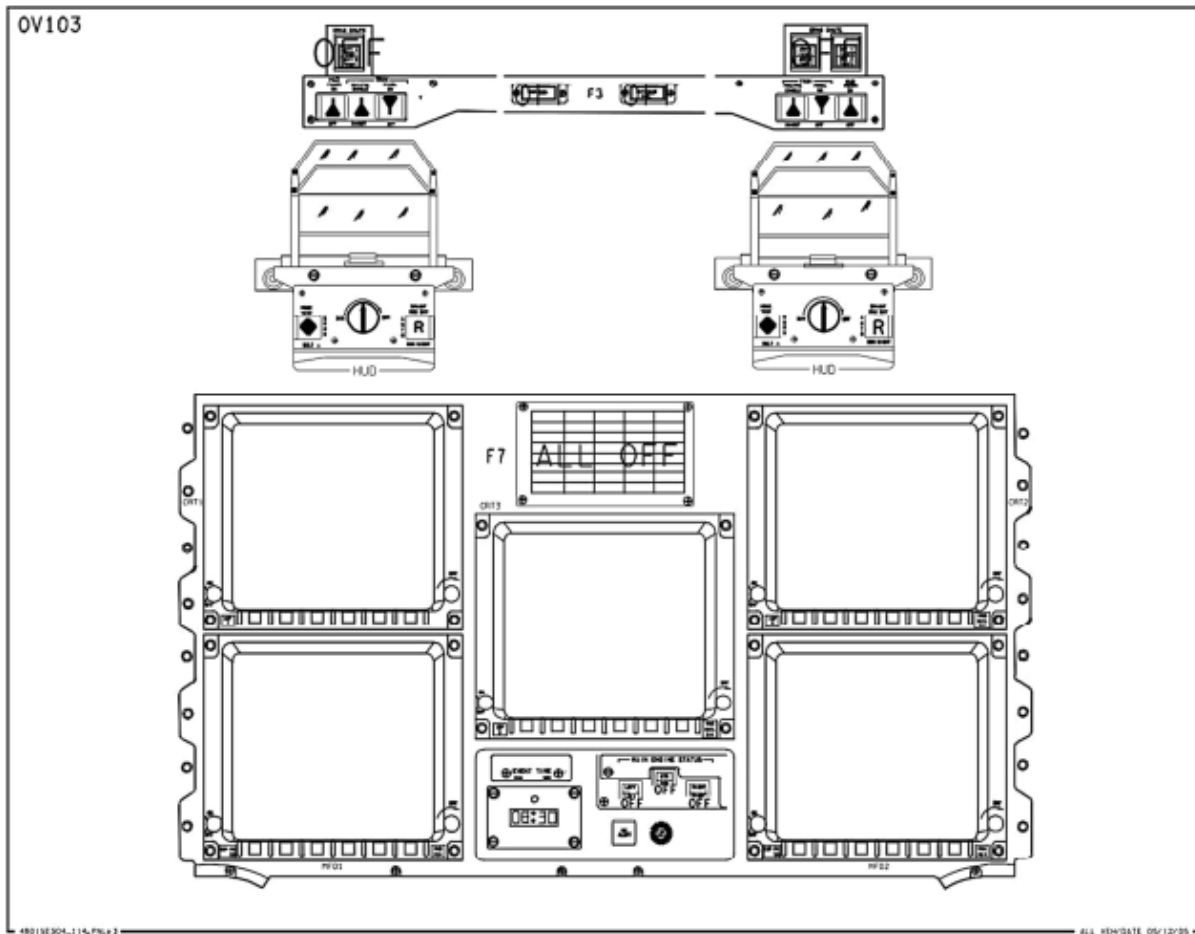
-03:05 PARTIAL ENTRY SWITCH LIST/VERIFICATION



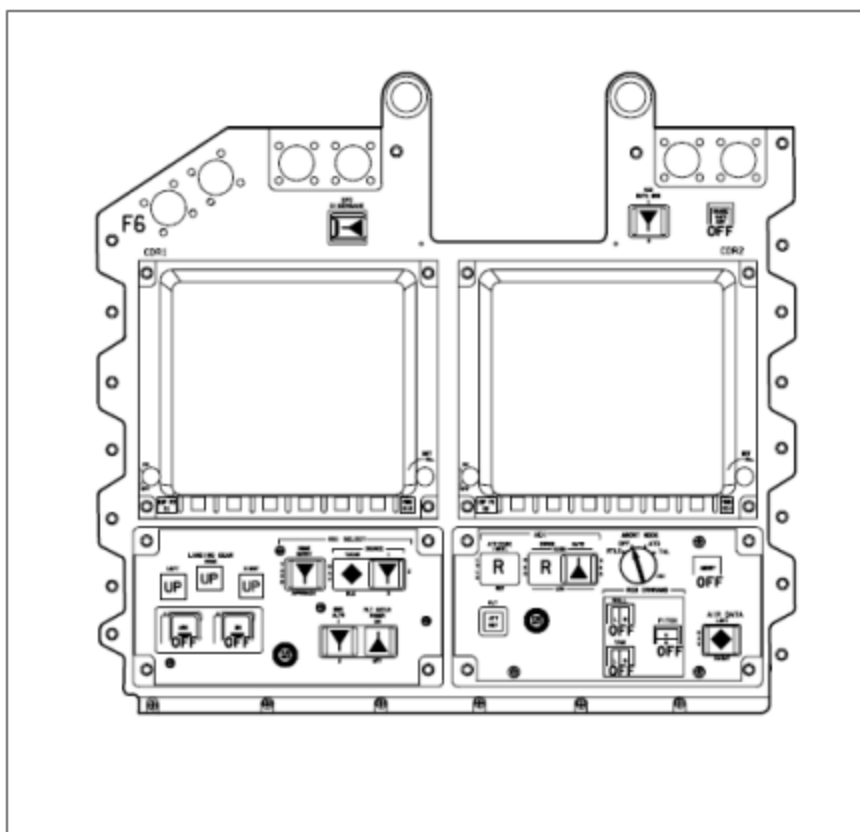
PANEL F2



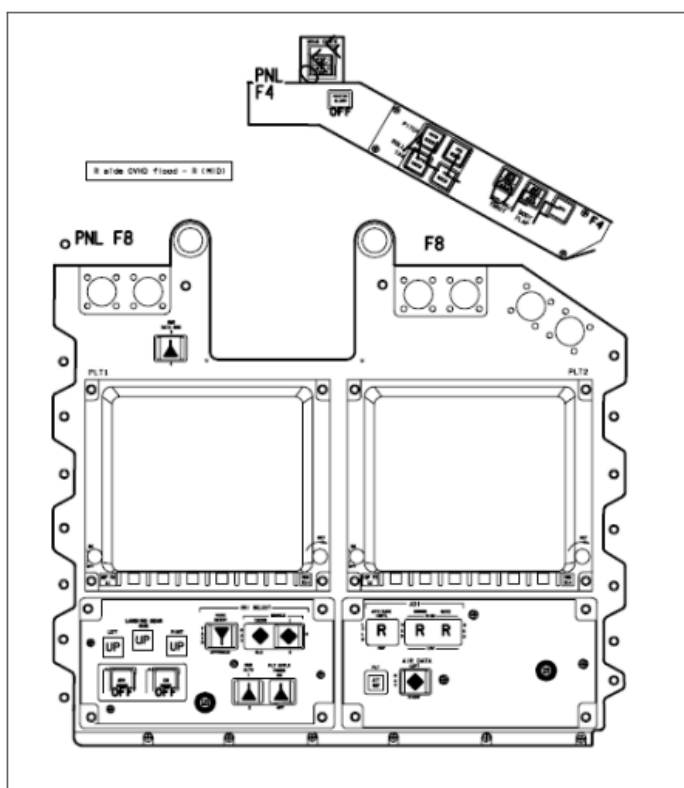
PANEL F3/F7



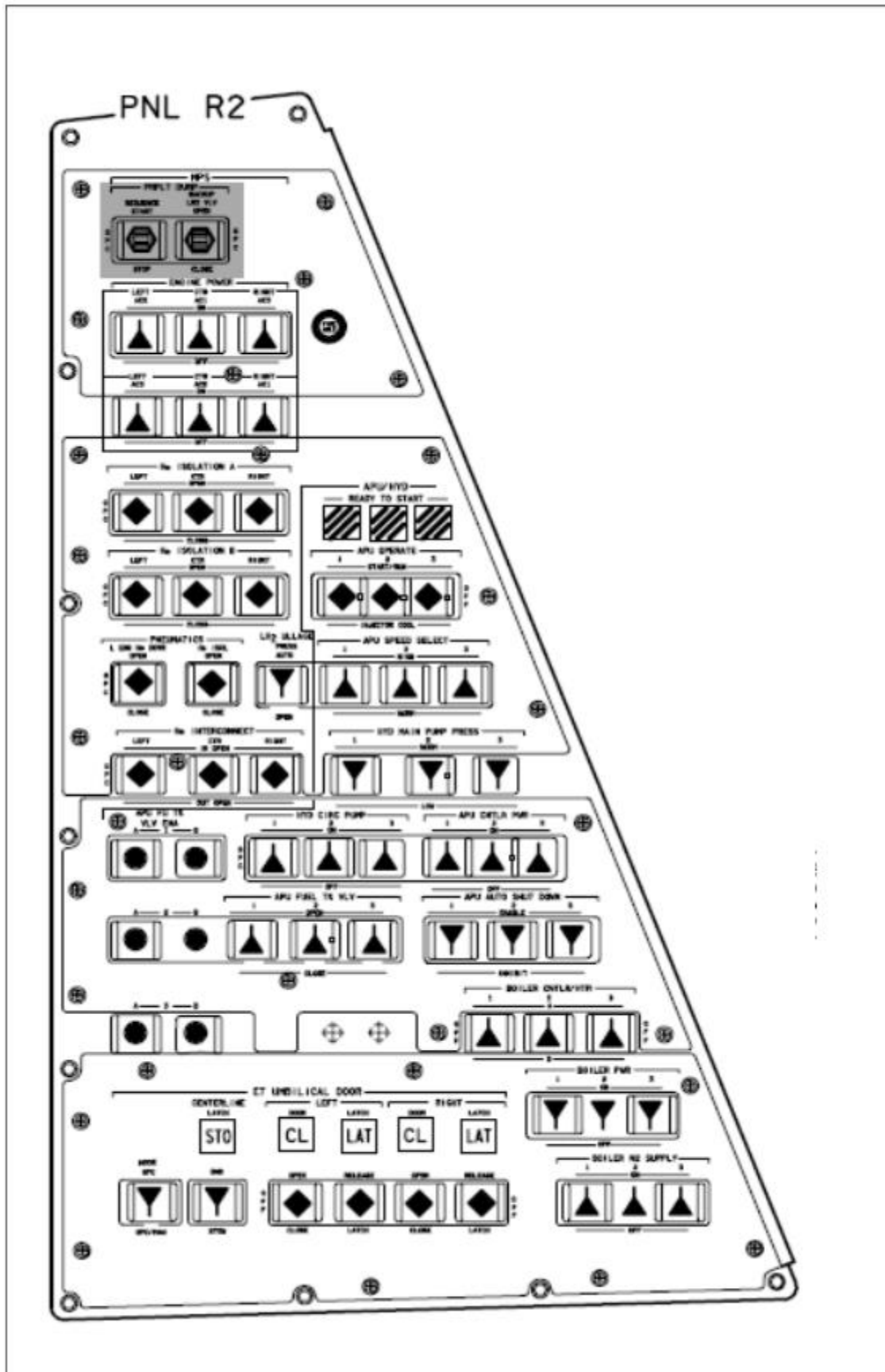
PANEL F6



PANEL F4/F8



PANEL R2



CONFIG FOR PLBD CLOSING

CONFIG RMS/OBSS (if RMS/OBSS onboard)

1. ✓Elbow Camr in aligned position

- Pan 90° from X-axis
- Tilt per decal

A8L	2. RMS PWR	– OFF
	PORT RMS HTR (two)	– OFF

SET UP LIGHTS

R11L	3. IDP/CRT4 PWR	– ON
MDU	✓CRT 4 PWR	– ON
A6U	✓ANNUN BUS SEL	– MNC
A7U	PL BAY FLOOD AFT STBD	– ON
	PL BAY FLOOD AFT PORT	– ON
	PL BAY FLOOD MID STBD	– ON
	PL BAY FLOOD MID PORT	– ON
	PL BAY FLOOD FWD STBD	– ON
	PL BAY FLOOD FWD PORT	– ON
	PL BAY FLOOD BHD	– ON

Record MET ____ / ____ : ____ : ____

-02:40

DETAILED PLBD CLOSING PROCEDURES

MANUAL PLBD CLOSING

CRT4 SM OPS 202 PRO (PL BAY DOORS)

AC PWR ON – ITEM 1 EXEC

AUTO MODE ON – ITEM 3 EXEC

R13L $\sqrt{\text{PL BAY DR}}$ – STOP

PL BAY DR SYS (two) – ENA

PL BAY DR – CL

When PL BAY DR tb – CL

PL BAY DR – STOP

PL BAY DR SYS (two) – DSBL

CRT4 AC PWR OFF – ITEM 2 EXEC

A7U After floodlights ON > 10 min:

PL BAY FLOOD (all) – OFF

-02:15

DPS ENTRY CONFIG

1. MEDS CONFIG

C2 IDP/CRT 3 PWR – ON

F6,F7,F8 ✓All forward MDUs ON and selected to primary port

2.VERIFY GPC CONFIG

O6	√GPC MODE 3	– HALT (tb-bp)
	√PWR 3	– ON
	√OUTPUT 1,2	– NORM (
	√ OUTPUT 3,5	– NORM (tb-bp)
	√ OUTPUT 4	– TERM (tb-bp)
	√MODE 1,2,4	– RUN
	√MODE 3	– STBY
	√MODE 5	– STBY

C2 Set event timer to countdown to TIG

3. TRANSITION GPC 1&2 TO GNC OPS 3

CRT1 GNC OPS 301 PRO (DEORB MNVR COAST)

4. TRANSITION BFS GPC TO GNC OPS 3

C3	BFC CRT DISP	– ON
	√SEL =	3+1

CRT3 BFS **GNC SYS SUMM 1**

O6 GPC OUTPUT 5 –B/U (tb bp)

CRT2 √TFL ENA – ITEM 29 (*)

CRT3 BFS GNC OPS 301 PRO (DEORB MNVR COAST)

5. TRANSITION GPC 1,2,3,4 TO GNC OPS

C3	BFC CRT DISP	– ON
	√SEL =	3+1
O6	GPC OUTPUT 4	– NORM
	GPC MODE 3,5 (two)	– RUN
C3	BFC CRT DISP	– OFF
	(GPC 3 commanding IDP 3)	
	BFC CRT DISP	– ON

6. MANEUVER BACK TO COMM ATT

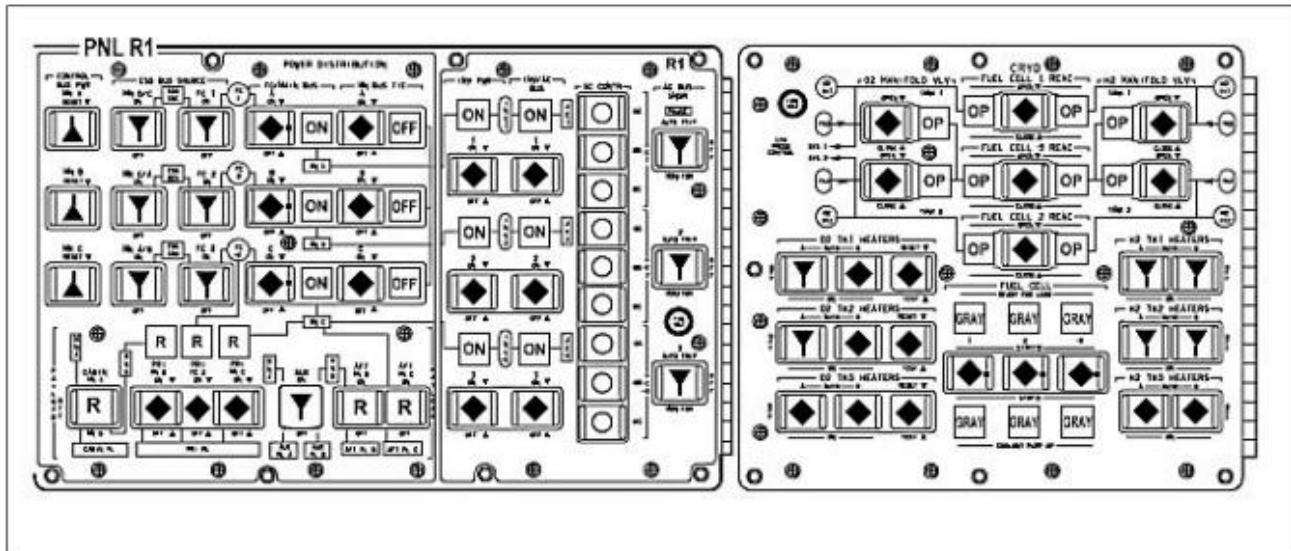
C3	DAP A/AUTO/ALT
-02:05	Load DEORB BURN TGTS
CRT1	√GNC OPS 301 PRO (DEORB MANVR COAST)

-02:00 DEACTIVATE STAR TRACKERS

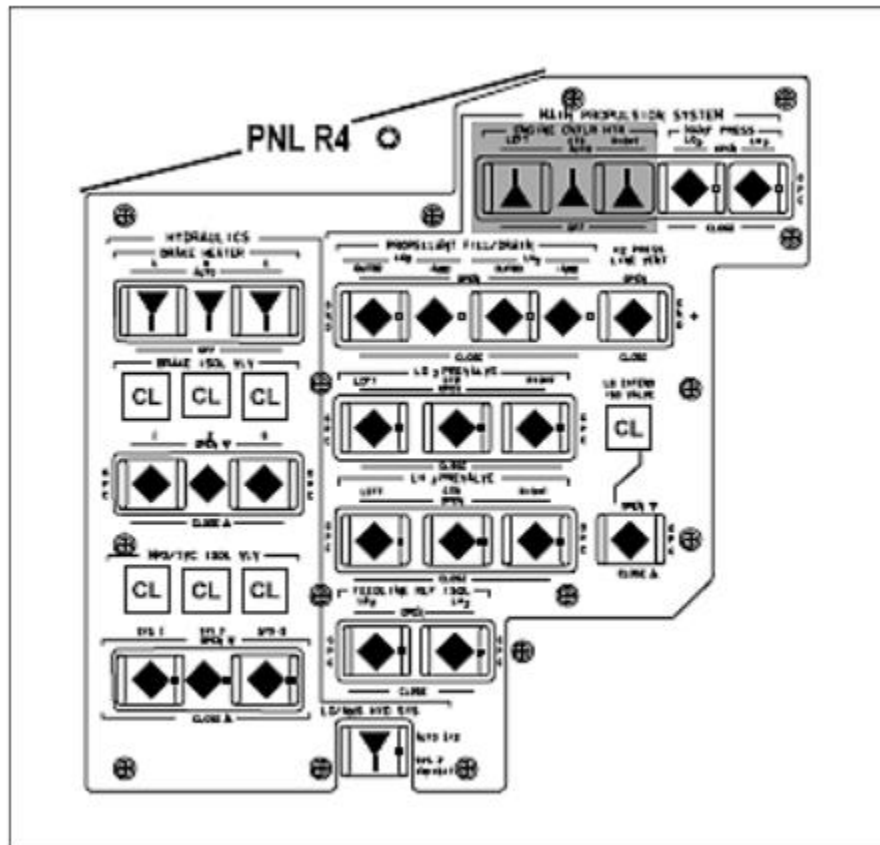
O6	STAR TRKR DR CNTL SYS (two)	– CL
	STAR TRKR DR CNTL SYS (two)	– OFF
	STAR TRKR PWR (two)	– OFF

-01:50 FINAL ENTRY SWITCH LIST/VERIF

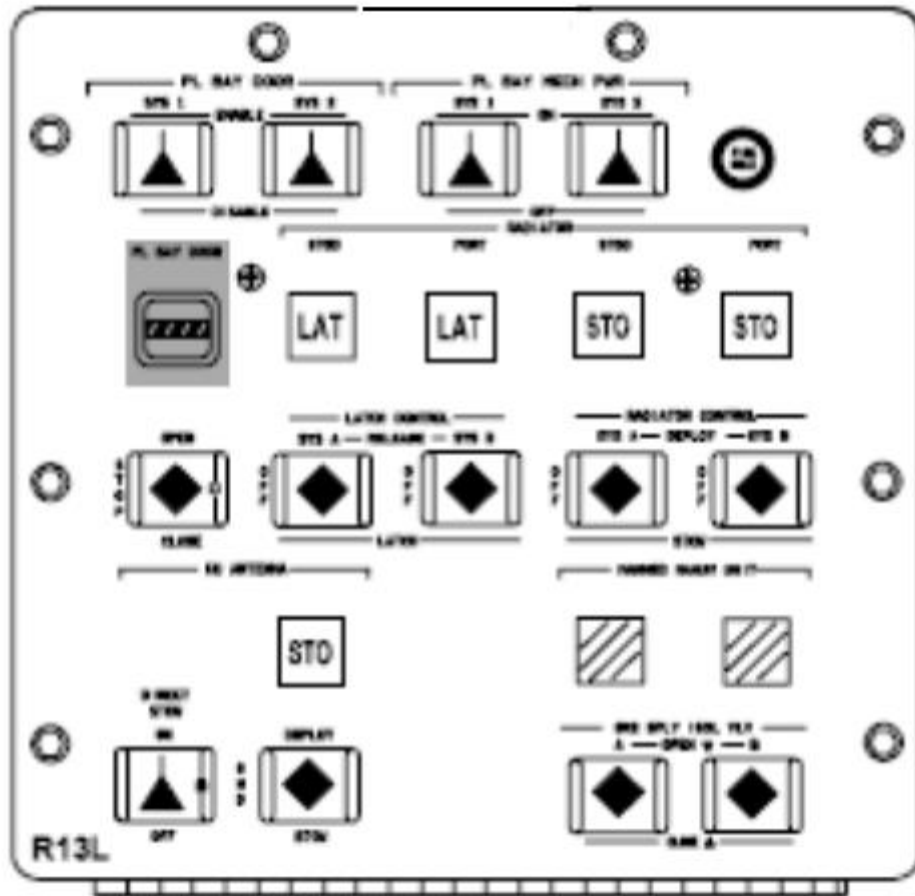
PANEL R1



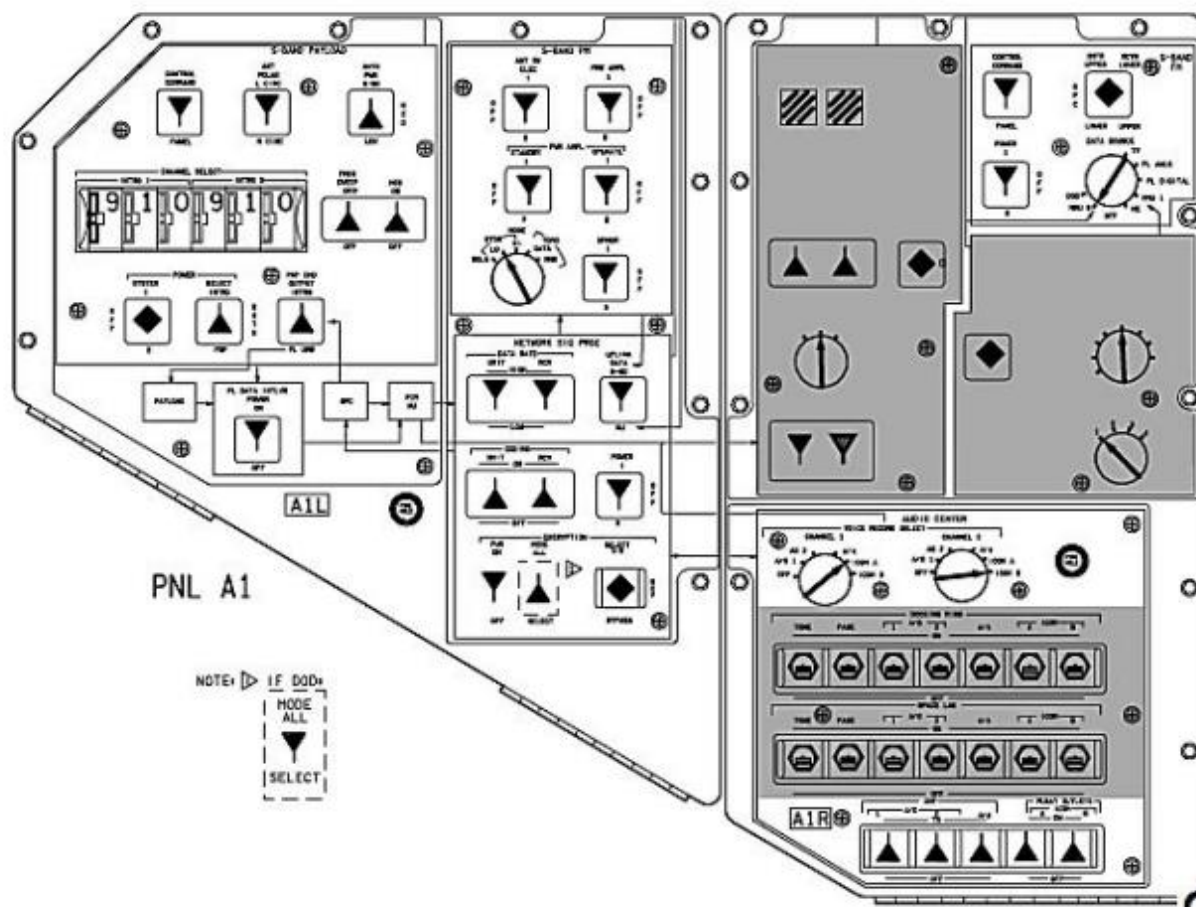
PANEL R4



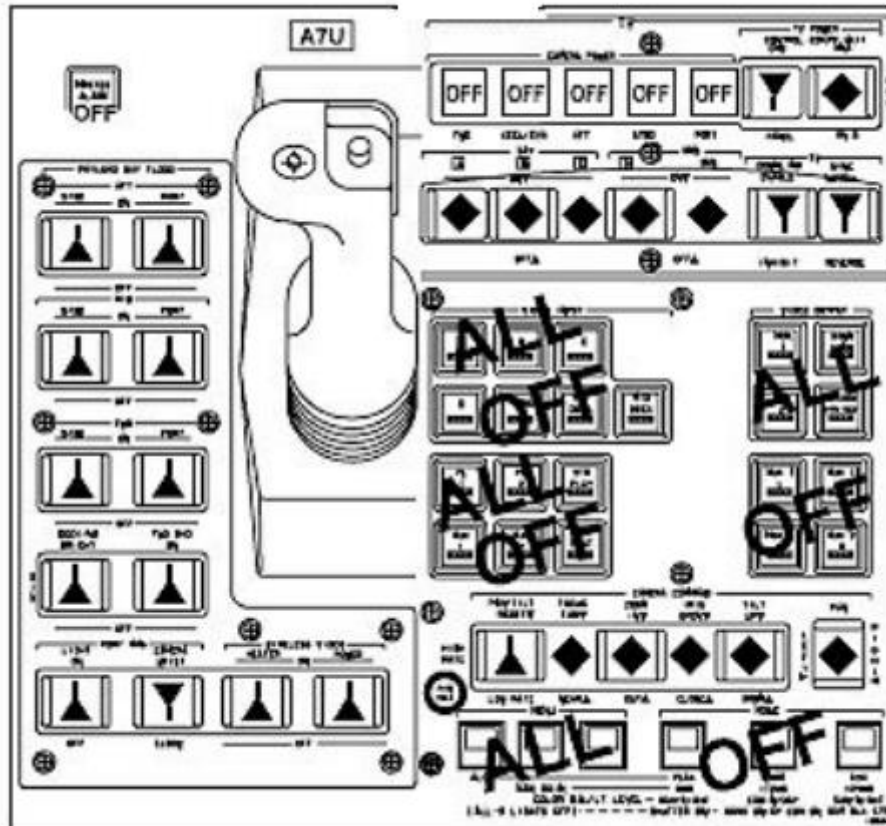
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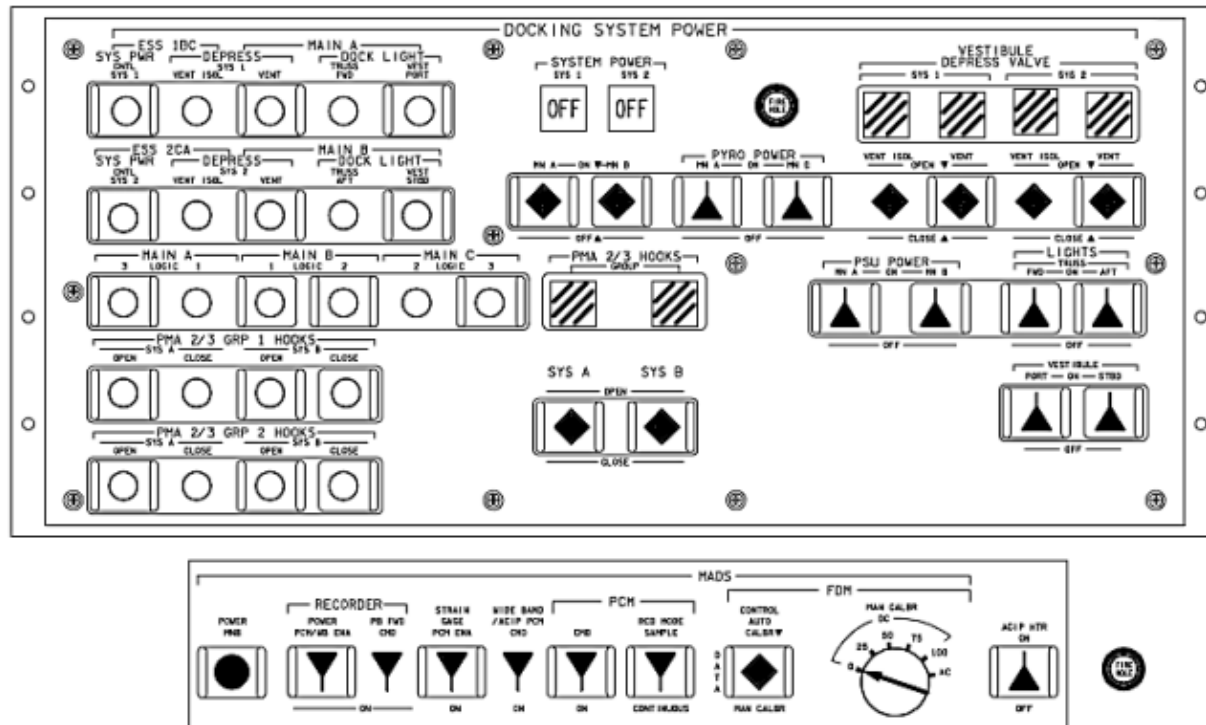
PANEL A1



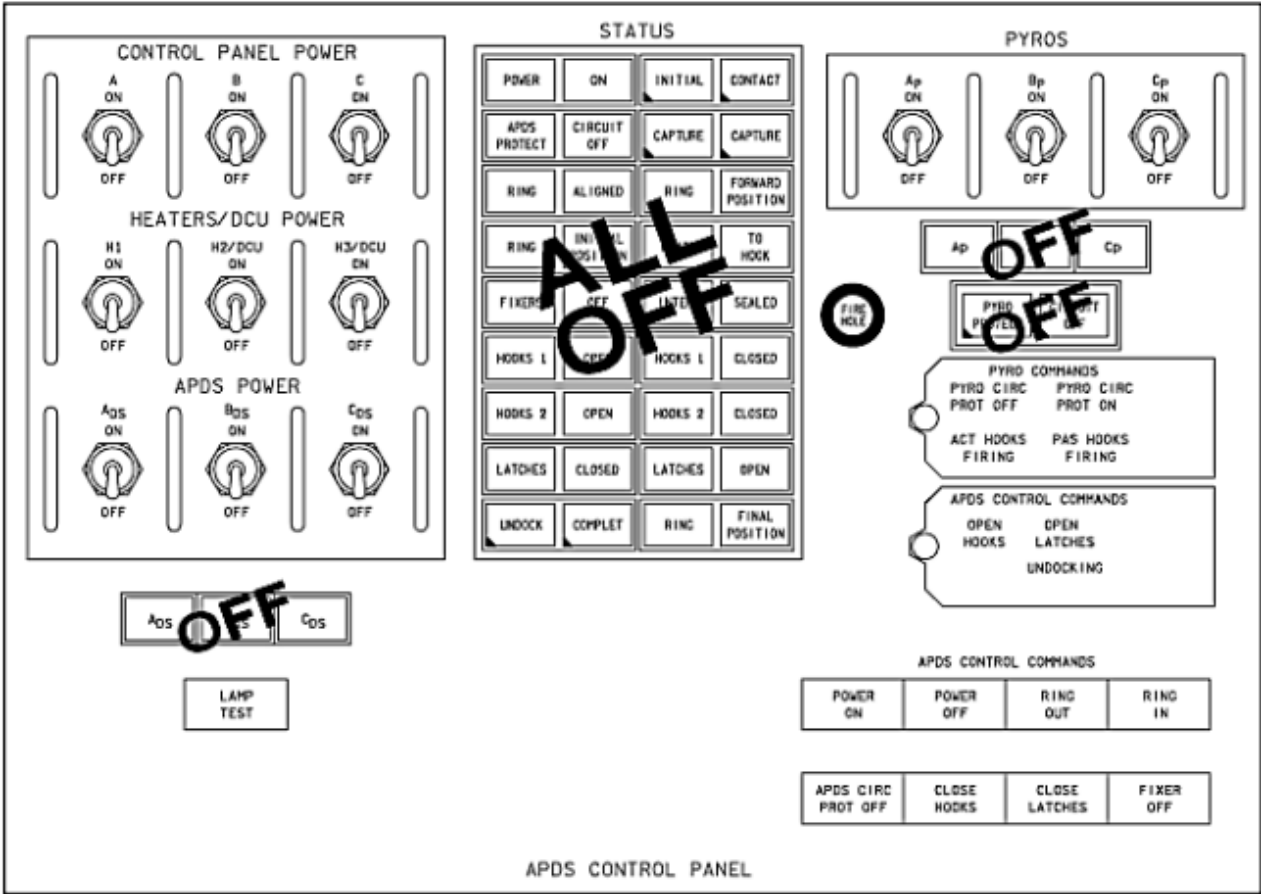
PANEL A7U



PANEL A6L



PANEL A7L





DEORBIT PREP CHECKLIST	STS ALL
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BACK COVER